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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/522,862  
Filing Date: September 06, 2005  
Appellant(s): BRABEC, CHRISTOPH

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Tony Zhang  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed on 11/04/2008 appealing from the Office action mailed 07/09/2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct.

**(8) Evidence Relied Upon**

US 2002/0088863	Ou	07-2002
US 4175982	Loutfy	11-1979
US 4649189	Achar	03-1987

US 4104083	Hirano	08-1978
JP 2001-203377 A	Kan et al.	07-2001
GB 2320356 A	Phillipps	06-1998
US 4801787	Suzuki	01-1989

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

*Claims 1-4, 8-14, and 18 are rejected under 35 U.S.C. 103(1) as being unpatentable over Ou (US PGPUB 2002/0088863) in view of Loutfy et al. (US 4175982).*

As to claim 1, Ou discloses a chip card (IC card 1, fig. 1) comprising an energy converter (solar battery 12, fig. 1) that occupies a portion of the surface area of the chip card (see fig. 1), so that an energy supply of the chip card is integrally present thereon (paragraph 0019). Ou further discloses that the energy converter is a photovoltaic cell (solar battery 12, which inherently comprises solar/photovoltaic cell). However, Ou is silent as to whether the solar/photovoltaic cell comprises a photovoltaically active polymeric compound.

Loutfy discloses a photovoltaic cell (1; see fig. 1) (see title and abstract; photovoltaic cell is inherently an energy converter as it converts light into electricity) wherein the cell (1) comprises a photoactive layer (3; fig. 2; col. 3, lines 16-19) wherein the photoactive layer includes a photovoltaically active polymeric compound (metal-free phthalocyanine; col. 3, lines 15-45). Loutfy utilizes a photovoltaically active polymeric compound in the photovoltaic cell because it reduces the cost (col. 1, lines 7-15; and

col. 2, lines 33-36) and at the same time increases the conversion efficiency (col. 2, lines 37-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the photovoltaic cell of Loutfy in the chip card of Ou, because of the reduced cost and increased conversion efficiency, as taught by Loutfy.

As to claim 2, Ou further discloses that the energy converter is a photovoltaic cell (solar battery 12, which inherently comprises solar/photovoltaic cell).

As to claim 3, Ou in view of Loutfy teaches that the photovoltaic cell is a polymer solar cell (the energy converter includes a photovoltaically active polymeric compound, as discussed above for claim 1).

As to claim 4, Ou further discloses that the energy converter covers (12) part of the front side of the chip card (1) (see fig. 1).

As to claim 8, Ou further discloses that the energy converter (12) is producible directly on the chip card (1) (see fig. 1, and paragraph 0020).

As to claims 9 and 11, Ou discloses an article, comprising:

- a chip card (IC card 1, fig. 1) having a surface; and
- a photovoltaic/solar cell (solar battery 12, which inherently comprises solar/photovoltaic cell) supported by a portion of the surface of the chip card (1) (see fig. 1).

However, Ou is silent as to whether the photovoltaic cell comprises a photovoltaically active polymeric compound.

Loutfy discloses a photovoltaic cell (1; see fig. 1) (see title and abstract; photovoltaic cell is inherently an energy converter as it converts light into electricity) wherein the cell (1) comprises a photoactive layer (3; fig. 2; col. 3, lines 16-19) wherein the photoactive layer includes a photovoltaically active polymeric compound (metal-free phthalocyanine; col. 3, lines 15-45). Loutfy utilizes a photovoltaically active polymeric compound in the photovoltaic cell because it reduces the cost (col. 1, lines 7-15; and col. 2, lines 33-36) and at the same time increases the conversion efficiency (col. 2, lines 37-40).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have utilized the photovoltaic cell of Loutfy in the article of Ou, because of the reduced cost and increased conversion efficiency, as taught by Loutfy.

As to claim 10, Ou further discloses that photovoltaic cell (12) acts as an energy supply for the chip card (1) (see paragraph 0020).

As to claim 12, Ou in view of Loutfy teaches that the photovoltaic cell is a polymer solar cell (the photovoltaic cell includes a photovoltaically active polymeric compound, as discussed above for claim 9).

As to claim 13, Ou further discloses that the photovoltaic cell (12) is integral with the chip card (1) (see fig. 1, which shows that solar battery 12 is integrated with the chip card; see also 0019).

As to claim 14, Ou further discloses that the photovoltaic cell (12) is disposed on the chip card (1) (see fig. 1 and paragraph 0019). In addition, instant claim is a product-by-process claim. Therefore, the claim is not limited to the manipulation of the recited

method of disposing the photovoltaic cell on the chip card such as printing. The determination of patentability is based on the product, and not on the method (method of disposing the photovoltaic cell on the chip card such as printing method) of making the product. See MPEP 2113 [R-I] Product-by-Process Claims. See also *In re Thorpe*, 777 F.2d 695, 698, 227 USPQ 964,966 (Fed. Cir. 1985).

As to claim 18, Ou further discloses that the article further comprise a display unit (display screen 11, fig. 1, paragraph 0019).

*Claims 5-6, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ou in view of Loutfy as applied to claims 1 and 9 above, and further in view of Hirano (US 4104083).*

As to claims 5-6, 15, and 17, Ou in view of Loutfy discloses a chip card or an article, as discussed above for claims 1 and 9. However, both of the references are silent as to whether the photovoltaic cell is semitransparent and/or opaque.

It is well known in the photovoltaic art to utilize a semitransparent or opaque photovoltaic cell to improve the weatherability of the photovoltaic cell. Hirano discloses a solar battery package wherein the back layer comprises an opaque or semitransparent material (see abstract, and Col. 4, lines 8-19). Hirano uses opaque or semitransparent layer in the solar battery because it allows for an improved weatherability (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the opaque or semitransparent photovoltaic

cell of Hirano in the chip card or article of Ou in view of Loutfy, because it allows for an improved weatherability, as taught by Hirano.

*Claims 6 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ou in view of Loutfy as applied to claims 1 and 9 above, and further in view of Kan et al. (JP 2001-203377A, refer to translation).*

As to claims 6 and 16, Ou in view of Loutfy discloses a chip card or an article, as discussed above for claims 1 and 9. However, both of the references are silent as to whether the photovoltaic cell is colored.

It is well known in the photovoltaic art to utilize a coloring matter in the photovoltaic cell to increase the mechanical strength. Kan discloses a photovoltaic cell (photoelectric conversion device, see title and abstract) wherein coloring matter (4, fig. 1) is added to the semiconductor layers to enhance the mechanical strength (see abstract).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the colored photovoltaic cell of Kan in the chip card or article of Ou in view of Loutfy, because it allows for an enhanced mechanical strength, as taught by Kan.

*Claims 7 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ou in view of Loutfy as applied to claims 1 and 9 above, and further in view of Phillipps (GB 2320356A).*

As to claim 7, Ou in view of Loutfy discloses a chip card, as discussed above for claim 1. Ou further discloses that the chip card (1) further comprises an energy



converter (12) and a display unit (display screen 11) (sees also fig. 1 and paragraph 0019). However, Ou is silent as to whether the photovoltaic cell is applied over the display unit.

It is well known in the art to apply the photovoltaic cell over the display unit. Phillipps discloses a combined liquid crystal display and photovoltaic converter wherein the photovoltaic cell is applied over the display unit (see fig. 2; see also Page 1, lines 14-20, and page 4, lines 6-9). Phillipps applies the photovoltaic cell over display unit because such placement of photovoltaic cell is conventional in the art to provide the support.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to apply the photovoltaic cell of Ou in view Loutfy over the display unit of Ou because such placement of photovoltaic cell is conventional in the art to provide the support, as shown by Phillipps.

As to claim 19, Ou in view of Loutfy discloses an article, as discussed above for claim 9. Ou further discloses that the article further comprises a photovoltaic cell (12) and a display unit (display screen 11) (sees also fig. 1 and paragraph 0019). However, Ou is silent as to whether the photovoltaic cell is supported by the display unit.

It is well known in the art to apply the photovoltaic cell over the display unit so that the photovoltaic cell is supported by the display unit. Phillipps discloses a combined liquid crystal display and photovoltaic converter wherein the photovoltaic cell is applied over the display unit (see fig. 2; see also Page 1, lines 14-20, and page 4, lines 6-9) to provide support for it. Phillipps applies the photovoltaic cell over display unit

because such placement of photovoltaic cell is conventional in the art to provide the support to it.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to apply the photovoltaic cell of Ou in view of Loutfy over the display unit of Ou to provide support for it, as it is conventional in the art, as shown by Phillipps.

*Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ou in view of Loutfy as applied to claim 9 above.*

Ou in view of Loutfy discloses an article addressing all the structural limitations of claim 9 (see above). Ou further discloses that the photovoltaic cell (12) is mounted on the chip card (1) (see fig. 1; and paragraph 0019). However, Ou is silent as to whether the photovoltaic cell is integral with the chip card.

It is well known in the art to integrate a part of the device over another part. See MPEP 2144.04 – Making Integral. “The use of a one piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice” – MPEP 2144.04. See also *In re Larson*, 340 F.2d 965, 968, 144 USPQ 347, 349 (CCPA 1965).

Therefore, it would have been obvious to one ordinary skill in the art the time of the invention was made to integrate the photovoltaic cell of Ou in view of Loutfy into the chip card of Ou to prevent the photovoltaic cell deterioration.

*Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ou in view of Loutfy as applied to claim 9 above, and further in view of Suzuki (US 4801787).*

Ou discloses an article comprising a chip card, as discussed above for claim 9. However, Ou is silent as to whether the chip card is selected from credit or security cards.

It is well known in the chip card art that credit or security card is a type of chip card as disclosed by Suzuki (Col. 1, lines 7-10).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the credit card of Suzuki as the chip card in the article of Ou, because it conventional in the art to use credit card as the chip card, as taught by Suzuki.

#### **(10) Response to Argument**

Appellant argues that "the ordinary and accustomed meaning of the term "polymeric compound" is a molecule containing a relatively large number of monomeric repeat units. This meaning is consistent with the specification" (page 3, lines 3-5 of Appeal Brief).

The Examiner respectfully disagrees. The Appellant does not clearly define the term "polymeric compound" in the original Specification as filed. What is stated in the Specification is "the terms are not intended to be subject to any limitation with respect to molecular size, particularly to polymeric and/or oligomeric materials, but instead the use of "small molecules" is completely feasible as well" (see Specification, page 2, lines 7-9). Therefore, one reading the claims in light of the specification would have realized the term "polymeric compound" is not intended to be limited with respect to the

molecular size and therefore can have any number of repeating monomeric structure and can be small molecules as well.

Appellant also argues that "given that the specification recites both "polymeric materials" and "oligomeric materials," one skilled in the art could readily understand that a polymeric material is different from and has a larger molecular size than an oligomeric material. Thus, one skilled in the art could recognize that Appellant's intention for reciting the term "a polymeric compound" in claims 1 and 9, rather than the terms "polymer," "organic material," and "functional polymer" defined in the specification, is to exclude oligomeric materials or small molecules from these two claims" (page 3, lines 5-11 of Appeal Brief).

The Examiner also respectfully disagrees. As stated above, Appellant does not clearly define the term "polymeric compound." In fact, the Specification is silent as to whether the term "polymeric compound" excludes oligomeric material or small molecules. If the Appellant desired the term "polymeric compound" to exclude oligomeric material or small molecules, Appellant should have provided either (a) special definition of the term "polymeric compound" or (b) should have explicitly mention that in the claim. In this case, Appellant fails to do both. In this case, Appellant fails to do both. Contrary to Appellant contention, the Specification states that "the terms are not intended to be subject to any limitation with respect to molecular size, particularly to polymeric and/or oligomeric materials, but instead the use of "small molecules" is completely feasible as well" (see Specification, page 2, lines 7-9).

In addition, the Examiner also notes that the features upon which applicant relies (i.e., polymeric compound being a molecule containing a relatively large number of monomeric repeat units) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In page 4 of Appeal Brief, Appellant presents that same argument that "the term 'a polymeric compound' in claims 1 and 9, rather than the terms 'polymer,' 'organic material,' and 'functional polymer' defined in the specification, to exclude oligomeric materials or small molecules."

Examiner respectfully disagrees with the Appellant for the reason stated above.

Appellant also argues that "Appellant already excluded use of phthalocyanine in the articles of claims 1 and 9 by reciting the phrase "photovoltaically active polymeric compound" in these two claims" (see Appeal Brief, Page 5, lines 1-2).

The Examiner respectfully disagrees. Firstly, Loutfy discloses a photovoltaic cell (1; see fig. 1) (see title and abstract; photovoltaic cell is inherently an energy converter as it converts light into electricity) wherein the cell (1) comprises a photoactive layer (3; fig. 2; col. 3, lines 16-19) wherein the photoactive layer includes a photovoltaically active polymeric compound (metal-free phthalocyanine; col. 3, lines 15-45). Phthalocyanine is a polymeric compound as evidenced by Achar et al. (US 4649189, col. 6, lines 44 - col. 7, lines 60, and claims 6 and 10 on col. 13-14) (cited in the first Advisory Action mailed on 08/05/2008). Since the Appellant does not explicitly claim that the photovoltaically

active polymeric compound can not be phthalocyanine compound (see claims 1 and 9 in Claim Appendix) or small molecules with limited number of repeating units, the photovoltaically active phthalocyanine compound of Loutfy reads on photovoltaically active polymeric compound.

Appellant also argues that "phthalocyanine polymer contains four monomers" and "such a phthalocyanine is not "a polymeric compound" within the meaning of this term as used in the specification" (see page 5 of Appeal Brief, lines 15-21).

The Examiner respectfully disagrees. Just because phthalocyanine compound contains four monomers, it does not make the compound non-polymeric. In fact, phthalocyanine is polymeric compound as evidenced by US 4649189, col. 6, lines 44 - col. 7, lines 60, and claims 6 and 10 on col. 13-14. In addition, if the Appellant desired the polymeric compound to have more than four monomers, then Appellant should have provided a special definition of the term "polymeric compound" or should have explicitly mentioned that in the claim. In this case, Appellant fails to do both. Contrary to Appellant contention, the Specification states that "the terms are not intended to be subject to any limitation with respect to molecular size, particularly to polymeric and/or oligomeric materials, but instead the use of "small molecules" is completely feasible as well" (see Specification, page 2, lines 7-9).

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Art Unit: 1795

Respectfully submitted,

/G. M./

Examiner, Art Unit 1795

Conferees:

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